

In the Claims

1. (currently amended) A point-to-multipoint network arrangement comprising:-

a head-end station;

at least one subscriber station;

a point-to-multipoint network providing shared medium connectivity between each subscriber station and the head-end station; wherein each subscriber station is arranged to transmit data that has previously been segmented into packet-switched transport protocol packets, to the head-end station, using a time division multiple access protocol, the head-end station being arranged to allocate having a number of consecutive time slots allocated to each subscriber station, each subscriber station having framing apparatus arranged to insert frame a packet of at least 576 bytes directly without segmentation of the packet, and synchronisation apparatus arranged to send the frame to the head-end station during into an allocation of consecutive time slots and with a guard band determined without using ranging without segmentation of the packet.

2. (original) A point-to-multipoint network arrangement according to claim 1 in which the packet-switched transport protocol employs packets formatted according to an Ethernet protocol.

3. (original) A point-to-multipoint network arrangement according to claim 1 in which the packet-switched transport protocol is arranged to carry Internet Protocol data.

4. (original) A point-to-multipoint network arrangement according to claim 1 in which the packet-switched transport protocol is arranged to carry unsegmented Ethernet frames .

5. (original) A point-to-multipoint network arrangement according to claim 1 in which the TDMA protocol employs frames each arranged to carry multiple packet-switched transport protocol packets.

6. (original) A point-to-multipoint network arrangement according to claim 1 in which the at least one subscriber station is arranged to periodically receive synchronisation signals transmitted from the head end-station.

7. (original) A point-to-multipoint network arrangement according to claim 6 in which differential time delays arising from differing path lengths between the head-end station and outstations are absorbed by including guard bands in the TDMA protocol.
8. (original) A point-to-multipoint network arrangement according to claim 1 in which the point-to-multipoint network is an optical network.
9. (original) A point-to-multipoint network according to claim 8 in which the optical network is a passive optical network.
10. (previously presented) A point-to-multipoint network arrangement according to claim 1 in which the point-to-multipoint network is one of a wireless network or a high-speed copper network.
11. (original) A point-to-multipoint network arrangement according to claim 1 in which each subscriber station is allocated to one of a plurality of groups, each group transmitting on a distinct physical channel.
12. (original) A telecommunications access network comprising a point-to-multipoint network arrangement according to claim 1.
13. (previously presented) The telecommunications access network of claim 12, the point-to-multipoint network arrangement comprising a passive optical network arrangement.
14. (cancelled)
15. (currently amended) A head-end station for a point-to-multipoint network comprising at least one subscriber station, and a point-to-multipoint network providing shared medium connectivity between each subscriber station and the head-end station, the head-end station being arranged to allocate a number of consecutive time slots to each subscriber station, sufficient for a frame containing a packet of at least 576 bytes without segmentation of the packet, the head-end station being arranged to receive the frame from the at least one subscriber station, containing data previously segmented into a packet-switched transport protocol packets and transmitted using a time division multiple access protocol with a guard band determined without using ranging having a number of consecutive time slots allocated to each subscriber station, the head end station having apparatus arranged to extract the packet from the frame of at least 576 bytes from an allocation of consecutive time slots without segmentation of the packet.

16. (original) A telecommunications network comprising a head-end station according to claim 15.

17. (currently amended) A method of operating a point-to-multipoint network arrangement comprising a head-end station, at least one subscriber station, and a point-to-multipoint network providing optical connectivity between each subscriber station and the head-end station, comprising the steps of:

transmitting upstream using a packet-switched transport protocol over a TDMA protocol having a number of consecutive time slots allocated to each subscriber station, and having guard bands determined without using ranging, inserting a packet of at least 576 bytes into a frame directly without segmentation of the packet and sending the frame during an allocation of consecutive time slots without segmentation of the packet.

18. (cancelled)

19. (cancelled)

20. (cancelled)